

REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Formalities

The claims have been amended to recite a "single slot" corresponding to slot 44 shown in Figs. 2 and 4.

In addition, the specification has been amended to correct various grammatical and idiomatic errors, and to correct the reference to "recesses 44" in line 20 on page 5. As shown in Fig. 4, element 44 does not include recesses, but rather is clearly a single slot that extends around the periphery of base 1.

Because the changes are all either formal in nature or clearly supported by the original drawings, it is respectfully submitted that the changes do not involve new matter.

2. Rejection of Claims 1 and 5-9 Under 35 USC §103(a) in view of U.S. Patent Nos. 4,665,331 (Sudo) and 4,924,125 (Clark)

This rejection is respectfully traversed on the grounds that neither the Sudo patent nor the Clark patent discloses or suggests a motor having a stator formed by a film printed circuit positioned by a single slot extending around a periphery of the base, as claimed. Instead, the Sudo patent discloses a film printed circuit stator coil 2 that is wrapped around an insulator and positioned inside a yoke (elements 1 and 11 shown, respectively, in Figs. 10 and 11) to face an internal rotor, while the Clark patent discloses a motor in which the a film printed circuit is wrapped around a stator arranged to face an external rotor.

Neither Sudo nor Clark even remotely suggests the claimed slot, which has the advantage not only of precisely positioning the stator, but also of protecting the thin film from damage, and of simplifying assembly of the motor.

Because neither the Sudo patent nor the Clark patent, whether considered individually or in any reasonable combination, discloses or suggests the claimed slot in a base for holding a printed circuit stator winding, withdrawal of the rejection of claims 1 and 5-9 under 35 USC §103(a) is respectfully requested.

3. Rejection of Claim 2 Under 35 USC §103(a) in view of U.S. Patent Nos. 4,665,331 (Sudo), 4,924,125 (Clark), and 5,105,114 (Sickle)

This rejection, to the extent that it may prospectively be applied to amended claim 1, is respectfully traversed on the grounds that the Sickle patent, like the Sudo patent and the Clark patent, fails to disclose or suggest a motor having a stator formed by a film printed circuit positioned by a single slot extending around a periphery of the base, as claimed. To the contrary, the Sickle patent discloses a permanent magnet structure, and does not disclose any sort of stator coil arrangement, much less one in which a printed circuit stator coil is positioned within a slot extending around a periphery of a base, as claimed.

4. Rejection of Claim 3 Under 35 USC §103(a) in view of U.S. Patent Nos. 4,665,331 (Sudo), 4,924,125 (Clark), and 5,920,139 (Fujiwara)

This rejection, to the extent that it may prospectively be applied to amended claim 1, is respectfully traversed on the grounds that the Fujiwara patent, like the Sudo patent, the Clark patent, and the above-discussed Sickle patent, fails to disclose or suggest a motor having a stator formed by a film printed circuit positioned by a single slot extending around a periphery of the base, as claimed. Instead, the Fujiwara patent discloses a permanent magnet stator in which magnets are situated in multiple recesses extending around the base. Thus, Fujiwara does not disclose the claimed stator coil or single slot.

5. Rejection of Claim 4 Under 35 USC §103(a) in view of U.S. Patent Nos. 4,665,331 (Sudo), 4,924,125 (Clark), and 4,563,622 (Deavers)

This rejection is respectfully traversed on the grounds that the Deavers patent, like the Sudo, Clark, and other patents discussed above, fails to disclose or suggest a motor having a stator formed by a film printed circuit positioned by a single slot extending around a periphery

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of the base, as claimed. Instead, the Deavers patent concerns a conventional, non-thin film coil-type stator. While the stator might be positioned in a slot, the slot and the stator do not extend around the periphery of the base, and therefore Deavers could not possibly have suggested modification of the stator arrangements of Sudo and Clark to include such a slot.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

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Date: February 25, 2003

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APPENDIX B
(Marked-Up Copy Of Amended Claims)

1. (Amended) A direct current brushless motor, comprising:

a base, having a single slot extending around a periphery of the base and a receiving chamber whose one end is formed with a shaft hole;

a film printed circuit, having at least two coil sets, a [set of] Hall sensing drive member set, and a connecting end for connection with a power supply, the film printed circuit being [enclosed and wound] positioned in the single slot so as to extend around a periphery of the base, and each of the coil sets of the film printed circuit being oppositely distributed on the periphery of the base in an equally angular manner with the receiving chamber serving as a center; and

a rotor, having a rotation shaft and a permanent magnet ring, the rotation shaft pivoted on the shaft hole of the base, the permanent magnet ring and each of the coil sets around the periphery of the base directly producing mutually repulsive forces, so that the rotor is driven to rotate successively.

8. (Amended) The direct current brushless motor as claimed in claim 1, wherein the Hall sensing drive member set includes a Hall sensor, and a drive member.

9. (Amended) The direct current brushless motor as claimed in claim 1, wherein the Hall sensing drive member set [may be] is integrated to make an integrated circuit.

APPENDIX D
(Marked-Up Copy Of Amended Paragraphs)

Page 2, lines 10-21:

In accordance with the present invention, there is provided a direct current brushless motor, including a base having a receiving chamber whose one end is combined with a cover plate. The other end of the receiving chamber and the cover plate each have a shaft hole, for pivoting the rotation shaft of the rotor. A film printed circuit is mounted on the periphery of the base. The film printed circuit has at least two coil sets, a [set of] Hall sensing drive member set, and a connecting end for connection with a power supply. The coil sets of the film printed circuit are oppositely distributed on the periphery of the base in an equally angular manner with the receiving chamber serving as a center. After the multiple coil sets are energized, the multiple coil sets and the permanent magnet ring of the rotor may produce mutually repulsive forces, so that the rotor may be driven to rotate successively.

Page 3, lines 15-26:

The base 1 may be a housing of a motor, a heatsink fan or the like. [the] The base 1 has a receiving chamber 11 whose one end is formed with an opened end, so that the rotor 3 may be received and rotated in the receiving chamber 11. A cover plate 12 is then mounted on the opened end of the receiving chamber 11. If necessary, the cover plate 12 may be fixed on the base 1 by various fixing [manners] methods. Each of the cover plate 12 and the base 1 has a shaft hole 13 for pivoting the rotation shaft 31 of the rotor 3. In the preferred embodiment, the shaft hole 13 may be fitted with an abrasion-proof member such as a bearing, a bushing or the like, so that the rotation shaft 31 of the rotor 3 may be rotatably mounted in the abrasion-proof member. The base 1 has an outer wall formed with multiple receiving holes 14 for [sinking] positioning and receiving the film printed circuit 2.

Page 4, lines 1-10:

The film printed circuit 2 has at least two coil sets 21, and a [set of] Hall sensing drive member set. The [set of] Hall sensing drive member set includes a Hall sensor 22, and a drive member 24, and has a connecting end 25 for connection with the power supply. The film printed circuit 2 additionally has a fixing magnetic member 23 that is made of magnetically conductive material. The film printed circuit 2 is enclosed and wound around the periphery of the base 1. If necessary, the film printed circuit 2 may be [sunk] positioned by and received in the receiving holes 14 of the base 1. Each of the coil sets 21 of the film printed circuit 2 are oppositely distributed on the periphery of the base 1 in an equally angular manner with the receiving chamber 11 serving as a center.

Page 4, lines 11-23:

The rotor 3 has a rotation shaft 31 having two ends each rotatably mounted in the shaft hole 13 of the base 1 and the cover plate 12 respectively. The rotor 3 has a permanent magnet ring 32. The rotation shaft 31 and the permanent magnet ring 32 are connected by blades 33. Thus, when the rotor 3 is rotated, the air may be driven to flow. The permanent magnet ring 32 is formed with at least two interface regions 321. Between the two interface regions 321 are poles N and S. The intermediate positions of the poles N and S are the strong magnetic regions 322. When the rotor 3 stops rotating relative to the film printed circuit 2, one of the strong magnetic regions 322 of the permanent magnet ring 32 and the fixing magnetic member 23 of the film printed circuit 2 may produce an attractive action, thereby forming a positioning and stopping action, so that the rotor 3 is easy to start at the next starting action.

Page 5, lines 15-25:

Referring to Figs. 2 and 4, the direct current brushless motor in accordance with the second embodiment of the present invention is shown. The rotor 3 is placed into the receiving chamber 41 of the base 4, and a cover plate 42 is secured on and combined with the base 4. Each of the cover plate 42 and the base 4 has a shaft hole 43 for pivoting the rotation shaft 31 of the rotor 3. The base 4 has a periphery provided with [recesses] a single slot 44, for receiving the

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film printed circuit 2, and each of the coil sets 21 of the film printed circuit 2 are oppositely distributed on the periphery of the base 4 in an equally angular manner with the receiving chamber 41 of the base 4 serving as a center. Thus, the film printed circuit 2 may be protected by the base 4, and may obtain a better positioning provision.